

## PATENT COOPERATION TREATY

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**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
**(PCT Article 36 and Rule 70)**

Applicant's or agent's file reference P27075PC00/RKI	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL 03/00875	International filing date (day/month/year) 10.12.2003	Priority date (day/month/year) 10.12.2003
International Patent Classification (IPC) or both national classification and IPC INV. C07C55/28		
Applicant HYCAIL B.V.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
  
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
 

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.
  
3. This report contains indications relating to the following items:
  - I  Basis of the opinion
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

Date of submission of the demand  05.07.2005	Date of completion of this report  07.04.2006
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Fritz, M  Telephone No. +31 70 340-3024



INTERNATIONAL PRELIMINARY  
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International application No.

PCT/NL 03/00875

Basis of the report

With regard to the elements of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)):

Description, Pages

1-26 as originally filed

Claims, Numbers

1-15 as originally filed

With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-15
	No: Claims	
Inventive step (IS)	Yes: Claims	1-15
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL 03/00875

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- D1: US-A-5 521 278 (O'BRIEN WILLIAM G ET AL) 28 May 1996 (1996-05-28)  
D2: US-A-5 236 560 (TARBELL JAMES V ET AL) 17 August 1993 (1993-08-17) (family document of EP A 0 630 371 cited in the application)

The present application relates to a process for the purification of lactide (claims 1-15).

The current process is characterized by a production step in which the crude vapour product stream obtained upon the cracking of linear lactide oligomers is fed into a rectification column thereby obtaining a gaseous fraction enriched with low-boiling components such as water, lactic acid and lactide.

Both D1 and D2 refer as well to a process for the purification of lactide, wherein the step of a fractional distillation (or rectification) is employed, however not on a gaseous product stream but on its condensate.

The subject-matter of claims 1-15 according to the present case is therefore novel in the sense of Article 33(2) PCT.

As closest prior art can be regarded any one of D1 and D2.

The problem of the present application was to provide an alternative process for the purification of lactide.

This problem has been solved, as can be seen in the description.

As neither D1 nor D2 gives a skilled person being aware of these documents an incentive to apply the rectification on the vapour product stream instead of its condensate, the process according to the present case cannot be considered obvious.

An inventive step in the sense of Article 33(3) PCT is therefore acknowledged for the subject-matter of claims 1-15.

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Further objections (which can be dealt with in an eventual national phase):

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

The term "mbara" employed on p. 21, line 5, p. 22, line 6, p. 23, line 10, p. 24, line 14 and p. 25, line 20 should be replaced by "mbar".